

## **FBI Approved Standards for Scientific Testimony and Report Language for Haplotype Testing**

### **1 Purpose**

This document provides examples of statements that are approved for reporting scientifically supported conclusions and offering expert opinions during testimony by Forensic Examiners within the FBI Laboratory's DNA Casework Unit (DCU) and Biometrics Analysis Unit (BAU) DNA Group. It is noted that these examples are not intended to be all inclusive and may be dependent upon the precedent set by the judge or locality in which a testimony is provided. Further, these examples are not intended to serve as precedent for other forensic laboratories and do not imply that statements by other forensic laboratories are incorrect, indefensible, or erroneous.

### **2 Scope**

This document applies to Forensic Examiners who prepare an FBI *Laboratory Report* (7-1, 7-1 LIMS, 7-273, or 7-273 LIMS) and/or provide testimony related to haplotype DNA examinations.

### **3 Responsibilities**

**3.1** The Examiner will ensure that a *Laboratory Report* is consistent with the approved language contained within this document.

**3.2** The Examiner will ensure that his/her testimony related to haplotype DNA examinations is consistent with the standards contained within this document.

**3.3** The Technical Reviewer will ensure that a *Laboratory Report* contains language consistent with the standards contained within this document.

**3.4** An authorized evaluator will assess if testimony provided by DNA personnel complies with the statements contained within this document in accordance with the FBI Laboratory Operations Manual (LOM) *Practices for Testimony Related Activities*.

### **4 Statements Approved for FBI Haplotype Testimony and/or Laboratory Reports**

#### **4.1 Inclusion/Cannot Exclude/Match**

The Examiner may state or imply that an inclusion is the determination that two haplotypes, generally one from an evidence sample and one from a reference sample, may have originated from the same source or lineage because the haplotypes are concordant. Within a *Laboratory*

*Report* and during the course of testimony, an Examiner will further state or imply that an inclusion is not an identification because the lineage will share the haplotype and unrelated individuals may also share the haplotype. An inclusion will be supported by a statistical estimate (e.g., upper bound frequency estimate or likelihood ratio) and/or a qualitative statement.

A qualitative statement of inclusion which is not supported by a statistical calculation must be limited to situations in which the presence of an individual's DNA on an item is reasonably expected. The provenance of the sample must be established in the case record when statistics are not calculated.

#### **4.1.1 Level of Certainty**

An Examiner may state or imply a level of certainty in his/her calculation of the supporting statistic. The level of certainty is based on a 95% confidence interval.

#### **4.2 Inconclusive**

An Examiner may state or imply that no conclusion can be provided for a sample or for a comparison between haplotypes, generally those obtained from an evidentiary sample and a known reference sample. Such a conclusion is termed an inconclusive result and may be the consequence of an insufficient number of differences detected between two haplotypes.

#### **4.3 Unsuitable Results**

An Examiner may state or imply that the DNA typing results are not suitable for matching purposes when a Y-STR mixture cannot be attributed to individual contributors (i.e., the mixture is indistinguishable).

An Examiner may state or imply that the DNA typing results are not suitable for comparisons when a mitochondrial DNA profile indicates a mixture of two or more individuals.

#### **4.4 Exclusion**

An Examiner may state or imply that two haplotypes, generally one from an evidence sample and one from a reference sample, are excluded as originating from the same source or lineage when there are sufficient differences detected between the haplotypes.

#### **4.5 Mixtures**

An Examiner may state or imply that a mixture of DNA was obtained from an evidentiary sample. The minimum number of contributors to a Y-STR mixture may be provided in the report and stated during testimony.

#### **4.6 Other Haplotype Conclusions**

An Examiner may state or imply that no DNA typing results were obtained from the evidence or

that no DNA typing results foreign to or unlike an individual whose DNA is reasonably expected to be present were obtained from the evidence.

An Examiner may state or imply that the DNA typing results obtained from the evidence are suitable for comparison purposes if no reference samples are available for comparison.

#### **4.7 Error Rate**

An Examiner may state or imply that the analytical processes and procedures used to support DNA typing technology do not have a calculable error rate due to the unpredictability of human error. An Examiner may further explain that the Laboratory has a quality system in place to minimize and/or identify potential procedural errors.

### **5 Statements Not Approved For FBI Haplotype Testimony and/or Laboratory Reports**

#### **5.1 Absolute Identification**

An Examiner may not state or imply that two matching haplotypes provide an absolute identification of the individual from whom the biological material originated.

#### **5.2 Racial/Ethnicity Prediction**

An Examiner may not state or imply that haplotype results can be used to predict the specific population, racial, or ethnic group to which an individual belongs.

#### **5.3 Zero Error Rate**

An Examiner may not state or imply that forensic haplotype-based DNA examinations have a zero error rate or are infallible.

#### **5.4 Reasonable Certainty**

An examiner shall not use the expressions ‘reasonable degree of scientific certainty,’ ‘reasonable scientific certainty,’ or similar assertions of reasonable certainty in either reports or testimony unless required to do so by a judge or applicable law.

### **6 Laboratory Report Reviews**

The content of a *Laboratory Report* will be reviewed per the appropriate LOM practices and the appropriate DNA procedures to ensure compliance with the standards contained within this document.

## 7 Testimony Reviews

Testimony provided by DNA staff will be reviewed in accordance with the LOM *FBI Practices for Testimony Related Activities* to ensure compliance with the standards contained within this document.

## 8 References

*FBI Laboratory Operations Manual*

*DNA Procedures Manual*

United States. Department of Justice. Office of Legal Policy. Forensic Science. *Department of Justice Uniform Language for Testimony and Reports for the Forensic Mitochondrial DNA Examinations*. Retrieved from the Department of Justice Web site:  
<https://www.justice.gov/olp/uniform-language-testimony-and-reports>.

United States. Department of Justice. Office of Legal Policy. Forensic Science. *Department of Justice Uniform Language for Testimony and Reports for the Forensic Y-STR DNA Examinations*. Retrieved from the Department of Justice Web site:  
<https://www.justice.gov/olp/uniform-language-testimony-and-reports>.

Rev. #	Issue Date	History
1	02/28/18	<p>Updated Scope</p> <p>3.3 Changed Unit Chief or designee to Technical Reviewer.</p> <p>3.4 Changed Unit Chief or designee to the testifying individual's manager and Subject Matter Expert, when appropriate.</p> <p>4.1 Clarified when quantitative statements are not provided.</p> <p>4.2 Updated to reflect current mitochondrial DNA interpretation procedures.</p> <p>4.3 and 4.5 Added Unsuitable Results section and Mixtures section, renumbered remaining sections.</p> <p>4.4 Rephrased.</p> <p>4.6 Changed wording for conditioned specimen for consistency with Autosomal ASSTR.</p> <p>4.7 Added section rephrased from second sentence of 5.3.</p> <p>5.3 Removed second sentence.</p>
2	03/27/19	<p>Updated to comply with Department of Justice (DOJ) Uniform Language for Testimony and Reports (ULTR) for Forensic Mitochondrial DNA and Y-STR DNA Examinations.</p> <p>1: Clarified language.</p> <p>3.4: Changed "individual's manager" to "authorized evaluator" to mirror LOM changes.</p> <p>4.1: Added clarification regarding when additional explanation is required.</p> <p>4.2: Generalized language to encompass all haplotype comparisons.</p> <p>4.4: Changed sentence structure to mirror 4.2.</p> <p>5.3: Changed to include examinations as a whole.</p> <p>5.4: Included section on reasonable certainty.</p>

**Approval**

Redacted - Signatures on File

DNA Technical Leader

Date: 03/25/2019

Acting BAU Chief

Date: 03/25/2019

DCU Chief

Date: 03/25/2019

**QA Approval**

Quality Manager

Date: 03/25/2019